

March 9, 2007

Ms. Sonya Davis  
RFAB/CFAB Project Coordinator  
Virginia Marine Resources Commission  
2600 Washington Ave., Third Floor  
Newport News, VA 23607

RE: PEER REVIEW OF PROPOSED MENHADEN ECONOMIC PROJECT

Dear Ms. Davis:

Thank you very much for the opportunity to evaluate the Virginia Recreational Fishing Development Fund project application proposed to estimate and assess the social and economic importance and value of menhaden to Chesapeake Bay stakeholders and region.

The proposed project is intended to promote an ecosystem management based regulatory system through the facilitation of the development of a Fishery Ecosystem Plan (FEP) for the Bay. The project aims to enable the VMRC and the Atlantic States Marine Fisheries Commission (ASMFC) to examine alternative regulatory and conservation options for menhaden by providing the social and economic impacts and potential changes in benefits to society associated with alternative conservation options. It also intends to provide detailed information about the potential social and economic impacts on various communities in both Maryland and Virginia of alternative regulatory and conservation options.

The Principal Investigator (PI) concludes that the best management of menhaden requires an ecosystem approach and the preparation of an environmental impact statement (EIS). In lieu of an EIS, the PI proposes the development of the equivalent of an EIS relative to the menhaden resource of the Bay region, specifically intended to estimate and compare economic impacts or contributions to the economy of Virginia, net benefits to the region, and potential social impacts generated by menhaden, relative to both consumptive and non-consumptive uses.

The PI acknowledges that the specific objectives of the proposed project and development of an EIS equivalent are wholly dependent upon the completion of numerous incomplete menhaden-related research projects (see project proposal - *Objectives of Study*). Moreover, the proposed project objectives require the completion of "*extensive research*" which is currently on-going at the Virginia Institute of Marine

Science and elsewhere. Specifically, at least 15 projects (see enclosure - *Menhaden Projects*) are currently underway to address priorities established by the ASMFC Atlantic Menhaden Technical Committee to:

- (1) Determine menhaden abundance in the Chesapeake Bay;
- (2) Determine estimates of removal of menhaden by predators
- (3) Determine the exchange of menhaden between the Bay and coastal systems; and
- (4) Determine menhaden recruitment to the Bay.

A number of the on-going research projects, such as the Light Detection and Ranging (LIDAR) Project rely upon unproven technologies, and represent pilot research projects which may or may not prove technically-feasible. However, the successful completion of the LIDAR and other projects are critical to the determination of the abundance, as well as recruitment, of menhaden within the Bay.

Consequently, the successful completion of the currently-proposed economic research project is wholly dependent upon on-going research relying upon unproven fishery assessment techniques and other fundamental, yet incomplete, menhaden-related research. Without the inclusion of data provided by the successful generation of LIDAR-based fishery models and other on-going research projects, an economic analysis examining alternative conservation options for menhaden management simply cannot be conducted or completed at the present time.

In sum, the proposed project application to provide a comprehensive estimate and assessment of the social and economic importance and value of menhaden to Chesapeake Bay stakeholders and region through the development of an EIS equivalent is premature. Considering the project's significant budget, the Recreational Fishing Advisory Board should not approve the project as proposed. As an alternative, the Board should consider a revised economic proposal offered by the PI which would not rely solely upon pilot-level technologies and incomplete biological studies of menhaden. Such potential economic studies could ultimately provide useful to augment the biological, social and ecologic base of knowledge that guides the management of the menhaden resource.

Enclosure

# Menhaden Projects

Project Title		FY 2005 Funding	Principal Investigator(s)	Technical Committee Priority(s) Addressed <sup>1</sup>
1	Ecosystem Modeling using Ecopath and Ecosim (NOAA Chesapeake Bay Office (NCBO) grant to University of British Columbia)	\$49,832	Villy Christensen (UBC)	A, B
2	Probing the Population Structure of Atlantic Menhaden in the Mid-Atlantic (NCBO grants to Old Dominion University and University of Maryland)	\$273,388	Thomas Miller (UMCES), Cynthia Jones (ODU)	C, D
3	Do Environmental Conditions in Nursery Habitat Contribute to a Mismatch in Growth and Production of Young Atlantic Menhaden and Striped Bass? (ASMFC grants to University of Maryland and University of Delaware)	\$185,684	Thomas Miller (UMCES), Timothy Targett (U of DE)	D
4	Stock Assessment Training Program -- Initial Focus on Atlantic Menhaden (NCBO grants to University of British Columbia and Virginia Institute of Marine Science)	\$56,067	Steve Martell (UBC), Villy Christensen (UBC), Rob Latour (VIMS)	A
5	Menhaden Abundance and Productivity in Chesapeake Bay: Linking the Environment and Primary Production to Variability in Fish Recruitment (NCBO grant to University of Maryland)	\$158,181	Ed Houde (UMCES), Lawrence Harding (UMCES)	D
6	Temporal and Spatial Variability in Growth and Production of Atlantic Menhaden and Bay Anchovy in Chesapeake Bay (MDDNR/ASMFC/NCBO grant to University of Maryland)	\$82,036	Ed Houde (UMCES), David Secor (UMCES)	D
7	Data Collection and Analysis in Support of Single and Multispecies Stock Assessments in Chesapeake Bay: the Chesapeake Bay Multispecies Monitoring and Assessment Program (VMRC/NCBO grant to Virginia Institute of Marine Science)	\$48,375	Robert Latour (VIMS), Christopher Bonzek (VIMS)	A, B
8	Specimen Analysis in Support of Single Species and Multispecies Stock Assessments in Chesapeake Bay (NCBO grant to Virginia Institute of Marine Science)	\$27,350	Robert Latour (VIMS), Christopher Bonzek (VIMS)	B
9	Striped Bass Stock Health Assessment: Mycobacteriosis Prevalence and Distribution (NCBO grant to University of Maryland)	\$269,170	Andrew Kane (U of MD)	B
10	Estimating Total Removals of Key Forage Species by Predators in Chesapeake Bay (NCBO grant to Virginia Institute of Marine Science)	\$74,375	Robert Latour (VIMS), Christopher Bonzek (VIMS)	B

11	Estimating Relative Abundance of Ecologically Important Juvenile Finfish and Invertebrates in the Virginia Portion of the Chesapeake Bay (VMRC/NCBO grant to Virginia Institute of Marine Science)	\$56,201	Marcel Montane (VIMS)	A
12	Modeling in Support of Nutrient and Multispecies Management (NCBO collaborative work with CBP)	\$144,423	Robert Latour (VIMS)	A
13	Functional Morphology of the Gill Raker Feeding Apparatus in Atlantic Menhaden (NCBO transfer to Northeast Fisheries Science Center)	\$25,000	Kevin Friedland (UMass)	
14	Environmental Effects on Atlantic Menhaden Recruitment and Growth (FY2004 NCBO transfer to Southeast Fisheries Science Center)	\$25,000	Doug Vaughn (NOAA Beaufort Lab)	D
15	Light Detection and Ranging (LIDAR) Pilot Program	\$120,360	Alexei Sharov (MD DNR), Cliff Tipton (USFWS), James Churnside (NOAA), Robert Latour and Chris Bonzek (VIMS).	A

<sup>1</sup> The ASMFC Atlantic Menhaden Technical Committee established priorities to examine the possibility of localized depletion in the Chesapeake Bay. The information in this column of the table refers to the Technical Committee Priorities listed below:

- A. Determine menhaden abundance in the Chesapeake Bay
- B. Determine estimates of removal of menhaden by predators
- C. Exchange of menhaden between bay and coastal systems
- D. Larval studies (determine recruitment to the Bay)